EXHIBIT 434

Organizational- and Product-Related Influences of Gray Market Channel Activity

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ABSTRACT. Gray market activity has increased dramatically with the rise in the number of manufacturers participating in export activities. A survey of U.S. exporters, coupled with qualitative interviews with export managers, were used to explore organizational factors of commitment and firm size and product related factors of product maturity and input factor costs' influence on gray market activity. Our results indicate that commitment and firm size are both related to the amount of gray market activity a firm experiences, while the product related factors were not associated with such activity. A detailed discussion of these relationships is offered, along with implications for export managers. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: <getinfo@haworthpressinc.com> Website: <http://www.haworthpressinc.com>]*

INTRODUCTION

The dramatic growth of international export activity, coupled with heightened competitive pressures, has led to increases in gray market activity throughout the world. Gray markets, or parallel imports, are established when authentically branded merchandise is distributed through unauthorized channels of distribution (Weigand 1991; Bucklin 1993; Singer 1996). A form of arbitrage, gray markets can be described as the unauthorized imports of

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goods into a market, which are then often sold at a price less than that offered by authorized distributors. Gray marketers are generally brokers who buy goods in another market, either from an authorized dealer or from a manufacturer, at relatively low prices and import them into a country where prevailing prices are higher (Cavusgil and Sikora 1988; Weigand 1989; Weigand 1991). The result of gray market activity is often reduced, or cannibalized, sales for the manufacturer, and jeopardized relationships with authorized distributors who possess contractual rights for the market (Assmus and Weise 1995).

A variety of conceptual studies have offered both proactive and reactive measures to combat gray market activity (e.g., Assmus and Weise 1995; Cavusgil and Sikora 1988; Cespedes et al. 1988). Predominately, focus has been placed on market-related variables and their relationship with gray market activity, such as foreign currency volatility and economic fluctuations (e.g., Cespedes et al. 1988; Weigand 1991; Knetter 1994) and stage of market development (e.g., Griffith 1997). Unfortunately, little empirical research has been conducted regarding the *internal* factors of the exporting firm and their relationship to parallel imports (i.e., gray market activity) of that firm's products. These internal factors, both organizational and product related, are important aspects of exporting activity, and may provide a greater understanding of this phenomenon (Aaby and Slater 1989).

The purpose of this paper is to identify factors that are important in understanding the gray market environment. Most work on gray markets has been *descriptive* in nature, with little *predictive* research conducted to date. Specifically, we will explore how (1) the firm's size and commitment to the venture influence the unauthorized distribution of its products, and (2) how the product's maturity in the export market and its input factor cost volatility are related to this phenomenon. First, the effects of gray markets and why they threaten international operations are discussed. Next, the literature is used to develop hypotheses relating organizational- and product-related factors to gray market activity. A survey of U.S. exporters is used to empirically test the identified relationships. Finally, managerial implications and conclusions are offered.

THE EFFECTS OF GRAY MARKETS ON EXPORT OPERATIONS

Gray markets thrive for a variety of reasons, many of which are out of the control of the exporter (although some gray market activities result from managerial miscalculations, such a over-production). Depending on the market, these factors include (a) foreign currency fluctuations between markets, which result in wide spreads in effective prices in those markets, (b) restricted imports or taxes and tariffs, which artificially drive the product price up in one market while not another, and (c) information accumulation, which

has become increasingly affordable and sophisticated, and allows distributors to take advantage of arbitrage situations between markets on a day-to-day basis (Assmus and Weise 1995, Duhan and Sheffet 1988).

Although manufacturers and channel partners receive some benefits from gray market activity, such as increasing market penetration by supplying price sensitive consumers (cf. Champion 1998), the problems associated with this activity tend to outweigh its benefits. Gray markets often result in ineffective pricing policies, damaged distributor relationships, declining salesforce morale, decreased customer service, and inaccurate measurements of employee performance (Cespedes et al. 1988). Specifically, four separate aspects of business have been identified as being detrimentally affected by gray market activity: trademark image, channel relationships, legal liabilities, marketing strategy (Cavusgil and Sikora 1988). The wide range of influencing factors across an organization suggests that the various functional areas within the firm often view the problem very differently (Myers 1997).

Two components of trademark image are threatened with the growth of gray market activity. First, the goodwill established by the trademark owner is jeopardized as a result of the gray market consumer not receiving the same extended product (i.e., pre- and post-sale service, etc.) that consumers through an authorized channel receive (Duhan and Sheffet 1988). Secondly, erosion of trademark image occurs when the esteem at which products, especially prestige products, are held is reduce due to the "discounted" price at which unauthorized distributors sell them (Cavusgil and Sikora 1988).

Channel relationships between manufacturers and dealers also become strained since profits are often enjoyed by unauthorized distributors rather than contracted middlemen (Cespedes et al. 1988). Cespedes et al. (1988) suggest that "when a distributor loses a sale to a gray marketer, the manufacturer hears about it in seven languages." While manufacturers can still make profits from gray market imports, particularly if a market segment is being serviced that wasn't through formal distribution, the relationships with its authorized dealers in any number of markets become strained. In other words, authorized dealers suffer from gray market activity, which they believe is the manufacturer's responsibility to control. Thus, the existence of gray markets can cause a significant ~~amount of acrim~~ony between manufacturers and distributors, thus disrupting the channel relationship (Assmus and Weise 1995).

Gray market activity can also expose a manufacturer to legal liabilities. For some manufactured goods, unauthorized distributors do not provide the necessary product support, such as usage and maintenance information, which could expose the user to harm should the equipment malfunction and cause injury. This in turn exposes the manufacturer to legal action. Also, when products are being distributed into markets not intended by the manufac-

turer, the product may not meet the country's safety or local content requirements, thus exposing the manufacturer to governmental legal liabilities.

Gray market activity can also play havoc with a firm's established marketing strategy. Marketing strategy and profits can be disrupted since forecasting and pricing decisions become increasingly complex when sales and market data are inaccurate, this due to unknown distribution and sales patterns (Cespedes et al. 1988). The reverberation of gray market activity can be seen through the disruption of the movement of product through the value chain, as well as inventory and manufacturing disruptions within the replenishment system.

In light of these detrimental effects on the international operations of firms, it is important for managers to be able to predict gray market activity under a wide range of scenarios. Given the limited research focus on organizational and product characteristic variables, most managers have concentrated on price differentials and market related factors when combating parallel imports. In the following section, research hypotheses are developed that link organizational and product related factors to gray market activity.

RESEARCH HYPOTHESES

The proactive and reactive strategies of manufacturers to gray market activity can severely influence the extent of such activity within their markets. Specifically, it is hypothesized that the firm's commitment to the venture and size will influence the unauthorized distribution of its products. Concurrently, product attributes often affect the positional advantages of the firm (Day and Wensley 1988), as well as the specific marketing strategies of the exporting firm (Cavusgil and Zou 1994).

Firm Related Factors

The firm's commitment to the export market, and channel partner, directly influences the amount of gray market activity. The firm's capabilities and constraints directly influence the choice of marketing strategy and the ability to influence that strategy (Cavusgil and Zou 1994). The support required to monitor and maintain channel relationships is only available when the firm is sufficiently committed to the export venture (Bilkey 1982). Since the foreign distributor is a critical link between the manufacturer and export customer, management's commitment to the venture is likely to lead to a high level of support to the distributor. This is important in combating gray market activity for two reasons: (1) communication with the manufacturer allows the distributor to express necessary changes in product price in the export market, and (2) communication with the distributor allows the manufacturer to monitor sales, and therefore, identify possible parallel imports into unauthorized

areas. This is supported by the research of Christensen, da Roca, and Gertner (1987) who found that firms committed to the export venture were more likely to change price according to market conditions. Commitment to the venture enhances coordination of channel partners, which is a critical aspect in the reduction gray market activity. Therefore, we state:

H1: The greater the degree of the firm's commitment to the export venture, the less the firm's product will be affected by gray market distribution.

While size advantages have been shown to influence export performance of the firm (Reid 1982), this characteristic has its disadvantages in the coordination efforts of distribution across markets. Larger firms, operating with a variety of business units, and with long lines of communication between upper and lower level management, will find it difficult to communicate with distributors and integrate market information into the overall exporting strategy. Since the coordination of marketing related activities, such as pricing, is an integral part of addressing gray market activity (Assmus and Weise 1995; Cavusgil and Sikora 1988), large firms with complex decision making processes will be at a disadvantage. Coordination of prices across a wide variety of markets is exceedingly difficult (Myers 1997), and often communication between individual country managers is often limited. Furthermore, the managerial inertia associated with larger firms prevents the flexibility necessary to modify prices and offerings to volatile markets. Thus, larger firms will experience a greater amount of gray market activity for their products than smaller firms. Therefore, we state:

H2: The larger the exporting firm, the greater the degree of gray market distribution of that firm's product.

Product Related Factors

In their study of 1988, Anderson and Gatignon found that product characteristics and market demand create special problems for distribution channels. The degree to which a product is standardized or adapted for sale in export markets affects that product's chances of becoming a parallel import (Cavusgil and Sikora 1988). While a great number of product related factors influence gray market activity, two product characteristics which have been identified by researchers as extremely important to understanding gray market activity are product maturity in the export market and product input cost volatility.

The degree of product maturity in the export market is critical in that older, more established products have been integrated into the economy and are

established within the market. Mature products, which tend toward standardization, generally increase the relative ease with which products can be moved across borders and adapted for local use (Cavusgil and Sikora 1988; Cespedes et al. 1988). This established presence allows distributors, both authorized and unauthorized, to become familiar with price margins across markets as well as potential buyers in those markets (Cespedes et al. 1988). Cespedes et al. (1988) suggest that as customers become familiar with a product category they tend to place less emphasis on the value of product support programs and therefore become more price sensitive leading to the establishment of gray markets. Conversely, a product that is unique to a market will find limited acceptance from buyers (Cavusgil and Zou 1994), and therefore demand for this product is also limited, restricting the opportunity for gray market activity. Thus:

H3: The greater the degree of product maturity in the export market, the greater the degree of gray market distribution of that product.

Given that price coordination is a critical aspect of combating gray market activity (Assmus and Weise 1995), aspects which limit the ability to coordinate product prices across markets are seen as detrimental to controlling unauthorized distribution. A number of market related factors which restrict this coordination issue have been shown to drive gray market activity, including foreign currency volatility (Knetter 1994) and inflation rates (Cavusgil and Sikora 1988). Little is known regarding product factors that influence price fluctuations. Here, product input cost volatility is seen as positively related to gray market activity, in that this instability will create volatility in price margins across markets. This will occur when newly manufactured products are priced under different cost foundations than those products already in place in the export markets. This will enable gray marketers to take advantage of this differentiation and increase the level of difficulty for export managers to coordinate prices over time. This problem is enhanced by increased shipment and shelf time associated with exporting relative to domestic sales. Therefore:

H4: The greater the degree of product input cost volatility, the greater the degree of gray market distribution of that product.

METHOD

Sample

Data used to test the hypotheses were collected through a self-administered questionnaire sent to 1,840 U.S. manufacturing exporters. The sample

frame was derived from the *Journal of Commerce Directory of United States Exporters*, which further identified the individual within the organization responsible for managing the export sale. Questionnaires were sent to these individuals, who included export managers, marketing managers, and international business directors within each firm. The firms chosen for the study were U.S. based exporters with overall sales of at least 10 million, with at least twenty percent of total sales coming from exports. It was felt that these parameters facilitated a focus on dedicated exporters, rather than those that exported occasionally and/or only to unsolicited orders. This also allowed us to center on firms that would recognize gray markets if and when they were present. Concurrently, this study focuses solely on direct rather than indirect exporters. It was felt that indirect exporting requires relatively little involvement in the target market and therefore was not appropriate for this study. The mailings were limited to those firms within the manufacturing S.I.C. codes and avoided exporters of primary products and consumer goods in order to concentrate on market exchanges between mid- and upper-level value added chain members not restricted by governmental price regulations.

Survey Development

In order to test the hypotheses and evaluate individual drivers of gray market activity, this study investigated managerial responses regarding unauthorized distribution effects on firms operating in multiple industries and exporting to a wide variety of country markets. This approach increased the generalizability of the findings, while at the same time focused on specific features of gray market activity. Following the research of Bonoma (1985) and Eisenhardt (1988), a series of twelve exploratory interviews were conducted with export managers from manufacturing firms in the U.S. in order to more accurately identify key issues in the gray market process. These preliminary interviews greatly assisted the development of the hypotheses and subsequent survey design. Once the survey was developed, the instrument was pre-tested on several export managers and research scholars. Suggestions were integrated into the survey. Further questionnaire development followed the general guidelines of Dillman (1978). In order to establish a unit of analysis for the study, managers were told to respond to the survey based on the most important product or product line in their most important export market.

Data Collection

Individuals identified in the source directories were contacted via mail. A second wave of survey packets was sent after a four-week interval. To enhance the response rate, respondents were offered a copy of the results for completing the survey. Of the 1,840 surveys mailed, 404 surveys were re-

turned. Subsequent to the accumulation of surveys, follow-up telephone calls were conducted with those managers indicating heavy gray market activity in their export markets. Overall, the study yielded a response rate of 21.9%.

Early and late respondents were compared across firm characteristics and constructs under study. Nonresponse bias, as examined through wave analysis indicated no significant differences at the .05 level suggesting that nonresponse bias was negligible (cf. Armstrong and Overton, 1977). A summary of respondent characteristics is offered in Table 1.

Measures

Table 2 shows the response structure of the hypothesized variables. The multi-item scales used indicate good internal consistency: all have reliability

TABLE 1. Characteristics of Responding Exporters

Characteristic	Percentage
Industrial Classification	
Manufacturing (food, textiles, chemicals)	21
Manufacturing (machinery, metals, electronics)	29
Transportation	30
Communication	7
Wholesale Trade	13
Retail Trade	2
Annual Sales (U.S. Dollars)	
Less than $10 million	2
$10 million-$50 million	14
$50 million-$100 million	22
$100 million-$200 million	20
$200 million-$300 million	18
$300 million-$400 million	10
Over $400 million	8
No response	6
Percentage of sales derived from exports	28.9
	Mean
Number of full time employees	526
Number of managerial personnel	51.92
Number of overseas markets in which firm has regular operations	23.2
Number of years firm has been involved in international business	26

amount of gray market activity that it will experience. While managers can never be certain if their performance will be influenced by gray markets when entering an export market for the first time, it is worthwhile to be aware of the markets where distribution control problems occur. It is understood that potentially profitable markets will rarely be avoided simply on the basis of gray market threats, yet susceptibility to gray market activity should be an important factor when managers are committing resources to control distribution in their export markets. Through an awareness of potential dangers internal to the exporting firms, *committed* managers will be able to reduce the gray market threat and enhance distribution control in their overseas operations.

Our results also indicate that larger firms are finding their products susceptible to gray market activity more than smaller firms are. This may be suggestive of the difficulty in coordination and communication among a large firm's various business units. The increased gray market activity associated with a firm's size is suggestive of the need for more ardent communication efforts between manufacturers and their distributors throughout the world. Often the distributor will blame the manufacturer for the occurrence of gray market activity (cf. Cespedes et al. 1988). Larger firms need to develop effective strategies that can help to coordinate channel activity to reduce the amount of gray market activity. To limit the amount of gray market activity, it is important for the exporting manufacturer to gain the support of the local distributor in trying to reduce this activity, as well as develop intra-firm coordination of exporting across markets.

Perhaps the most interesting results of the study were those that found product characteristics in the form of maturity and input cost volatility are not associated with parallel imports. First, our findings did not support prior conceptualizations of the influence of product maturity on gray market activity. Although Cespedes et al. (1988) suggest that as customers become familiar with a product category they tend to place less emphasis on the value of product support programs and therefore become more price sensitive leading to the establishment of gray markets, our finding do not support the contention that product maturity may help to create gray market activity. The underlying assumption in the development of this hypothesis was price sensitivity declines over the life of the product. However, gray market activity might not be tied as strongly to the product's stage in the life cycle, but rather with the distribution of price sensitive of consumers across their markets (Champion 1998). This may suggest that managers must look beyond the length of time the product has been sold in the market when trying to understand gray market activity and instead focus their efforts on understanding the markets dispersion of price sensitivity.

Second, our results indicate that product input cost volatility was not related to gray market activity. Gray markets oftentimes operate on price

arbitrage across markets. However, manufacturers may not incorporate differences in input factor costs into specific product pricing, or profit margins, across markets. Therefore, volatility in input factor costs may be limited by an organization's ability to spread the cost volatility across products internally, thus minimizing the overall influence on market prices, and in turn, gray market activity. The fact that the relationship does not exist actually becomes a basis for a marketing strategy to combat gray market activity. In other words, if firms can minimize price differential (though spreading input factor price volatility across its products) across markets the amount of gray market activity may decrease. This strategy is consistent with the suggestions of Cespedes et al. (1988).

Several limitations of this study should be noted. First, in our investigation of the organizational and product related factors which are related to gray market activity, no attempt was made to simultaneously test market related factors such as foreign currency volatility and inflation rates with these variables, both of which have been shown to be related to gray market activity in prior studies. Future empirical research should include factors *both* internal and external to the firm in any gray market investigations, this to increase the overall generalizability of the study. Second, our investigation focused only on manufactured goods. This limits to some degree the data in that in-market research of distribution activities would assist greatly in understanding the degree of unauthorized distribution activity of consumer goods as well.

With the value of gray market products sold throughout the world running into the billions of dollars annually (Cespedes et al. 1988), manufacturing exporters can hardly afford to ignore the possibility of this phenomenon having severe effects on their sales volume, margins, or their relationships with distributors. In this study, we have shown counter-intuitive results concerning the effects of product characteristics on parallel imports, as well as supported our hypotheses regarding organizational characteristics' relationships with gray market activity. Until researchers can identify and survey actual gray marketers in depth, the literature will rely on export manager responses in addressing gray market actions.

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APPENDIX
Measures and Scale Items of Constructs

Commitment to the Venture

All measured on Likert-type scales
In allocating our firm's resources, domestic customers always receive priority over export customers (1 = strongly agree; 7 = strongly disagree)
Exporting is our main source of growth (1 = strongly agree; 7 = strongly disagree)
Exporting is critical to the achievement of our firm's goals (1 = strongly agree; 7 = strongly disagree)

Firm Size

Number of employees in the firm
Sales volume (dollars)

Product Age

Number of years product has been sold in overseas market by the firm

Input Cost Volatility

All measured on Likert-type scales
The variable costs of our product are very volatile (1 = strongly agree; 7 = strongly disagree)
The fixed costs of our product are very volatile (1 = strongly agree; 7 = strongly disagree)
Total costs of our product are very difficult to estimate (1 = strongly agree; 7 = strongly disagree)

Gray Market Activity

All measured on Likert-type scales
Unauthorized imports of our product are a major problem for our firm (1 = strongly agree; 7 = strongly disagree)
We have complete control over who distributes our product in this market (1 = strongly agree; 7 = strongly disagree)